



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,690	09/30/2003	Eiju Maehara	16589-003001	6174
26211	7590	12/29/2005		EXAMINER
FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022				VON BUHR, MARIA N
			ART UNIT	PAPER NUMBER
			2125	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/675,690	MAEHARA ET AL.
	Examiner Maria N. Von Buhr	Art Unit 2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 September 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-15 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 September 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

1. Examiner acknowledges receipt of Applicant's response to the previous Office action, received 19 September 2005; which amends claims 1, 8 and 9, and introduces claims 10-15. Claims 1-15 are now pending in this application.
2. In response to Applicant's amendments to the claims, the drawings are now objected to under 37 CFR §1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the added limitations of "the user terminal is adapted to allow the user to select a circuit device having any of a single-layer structure or a multi-layer structure" (currently amended claim 1, or similar language in currently amended claims 8 and 9, and newly added claim 12), "the processor means of the server determines whether the circuit device is of a single layer structure or a multi-layer structure" (newly added claims 13 and 14), and that such determination is based either "on the condition or the circuit device data received from the user terminal" (newly added claim 13) or "on at least one of a size of external form, a heat discharging characteristic or a frequency characteristic received from the user terminal" (newly added claim 14), and "the processor means of the server provides to the user terminal rule data for creating pattern design data based on the condition and the circuit device data received from the user terminal" (newly added claim 15) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
3. Corrected drawing sheets in compliance with 37 CFR §1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR §1.121(d). If the changes are not accepted by Examiner, Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
4. The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. In response to Applicant's amendments to the claims, claims 1-15 are now rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per independent claim 1, the specification does not support the newly added limitation that "the user terminal is adapted to allow the user to select a circuit device having any of a single-layer structure or a multi-layer structure" (or similar language in currently amended claims 8 and 9, and newly added claim 12). The only mention of such a capability is at page 28 of the instant specification, wherein Applicant asserts that "for example, as an ISB circuit device, in addition to a structure having a single-layer wiring layer, it is also possible to employ a structure having multi-layered wiring, and it is further possible to employ a configuration in which the user can select a single-layer structure or a multi-layer structure when the user inputs conditions of the ISB circuit device from the user terminal 10." Firstly, this statement is not a concrete recitation of function, since Applicant presents it only as a "possibility." Secondly, nothing in the instant specification provides support for how such a function is actually accomplished. Therefore, the referenced recitation is non-enabling. Further in claims 1 and 8, the limitation that the terminal "is adapted to" allow the recited function is not supported by the specification, since no actual enabling disclosure of any "adapting" has been provided for (i.e.; as is commonly understood, the term "adapting" refers to changing or modifying an existing item, in order to make it into a different item; or in this case, changing an item in order to make it perform a desired function not previously performed by that item).

As per claims 13 and 14, the specification does not support the newly added limitation that "the processor means of the server determines whether the circuit device is of a single-layer structure or a multi-layer structure," nor that such determination is based either on "the condition or the circuit device data received from the user terminal" (newly added claim 13) or "at least one of a size of external form, a heat discharging characteristic or a frequency characteristic received from the user terminal" (newly added claim 14). The only mention of such a capability is at page 28 of the instant specification, wherein Applicant asserts that "it is also possible for the ISB server 16 to automatically determine whether to employ a single-layer structure or multi-layer structure based on the external size, thermal discharge characteristic, and frequency characteristic input by the user and design a pattern. In general, when the thermal characteristic and compliance to multi-pins are of greater priority, a single layer structure may be selected and when a high-density mounting, that is, the external size is of greater priority, a multi-layer structure may be

selected.” Firstly, this statement is not a concrete recitation of function, since Applicant presents it only as a “possibility.” Secondly, nothing in the instant specification provides support for how such a function is actually accomplished. Therefore, the recitation is non-enabling.

The remainder of the claims are rejected as necessarily incorporating and not resolving the above-noted informalities of their parent claims.

6. The following is a quotation of the second paragraph of 35 U.S.C. §112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which Applicant regards as his invention.

7. In response to Applicant’s amendments to the claims, claims 1-15 are now rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

As per independent claim 1, the newly added limitation, that “the user terminal is adapted to allow the user to select a circuit device having any of a single-layer structure or a multi-layer structure,” is vague and indefinite, and has no clear metes and bounds, because (1) “is adapted to” is vague and indefinite (i.e.; the kind of “adapting,” in order to provide for this functionality, is not specified nor defined), (2) “is adapted to” has no clear metes and bounds (i.e.; the kind of “adapting,” in order to provide for this functionality, is not limited, and hence encompasses any and all manner of achieving the desired result), and (3) “allow the user to select” has no clear metes and bounds, since it is not a positive recitation of function, and only requires that the recited function not be prevented.

The above similarly applies to independent claim 8, as instantly amended, and newly added claim 12, with regard to the “adapted to” language. The above similarly applies to independent claims 8 and 9, as instantly amended, with regard to the “allow” language.

The remainder of the claims are rejected as necessarily incorporating the above-noted ambiguities of their parent claims.

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. In response to Applicant’s amendment and remarks, concerning the 35 U.S.C. §102(a) rejection of claims 1-11, as being clearly anticipated by Robertson et al. (U.S. Patent No. 6,594,799), Examiner notes the following:

a. As presented in the previous Office action, as per claims 1, 3 and 9, Robertson et al. provide for a “multi-faceted portal site acts as a server in the context of an n-tier client/server network, and connects electronic designers and design teams to design and verification tool and service providers on the other through a single portal site. Tools and services accessible to users through the portal site include electronic design automation (EDA) software tools, electronic component information, electronic component databases of parts (or dynamic parts), computing and processing resources, virtual circuit blocks, design expert assistance, and integrated circuit fabrication. Such tools and services may be provided in whole or part by suppliers connected to the portal site. Users accessing the portal site are presented with options in a menu or other convenient format identifying the tools and services available, and are able to more rapidly complete circuit designs by having access to a wide variety of tools and services in a single locale. The portal site may facilitate purchase, lease or other acquisition of the tools and services offered through it. The portal site tracks the movements of users through the portal site in order to learn about the design preferences and design approaches of users individually and in the aggregate. Previous actions taken by the user and by similarly-situated users may be considered in determining which information presented to the user, or in what order to present information to the user, thereby providing contextually-driven access” (see the abstract; Figs. 1-2).

b. As presented in the previous Office action, further as per claims 1, 2 and 10, Robertson et al. further teach storing various types of well-known circuit design information (see at least, col. 2, lines 11-25; col. 6, lines 20-36; col. 10, line 62 - col. 11, line 56).

c. As presented in the previous Office action, further as per claims 4 and 11, Robertson et al. further teach collecting and distributing reliability data for the designed integrated circuits (see at least, col. 7, lines 20-31; col. 8, lines 20-60; col. 10, line 62 - col. 11, line 56; Fig. 8, with accompanying text).

d. As presented in the previous Office action, further as per claims 5 and 6, Robertson et al. further teach connecting a plurality of different types of sites to the server through the Internet (see at least, col. 6, line 36 - col. 7, line 19; col. 7, lines 37-57; col. 8, lines 20-60).

e. As presented in the previous Office action, further as per claim 7, Robertson et al. further provide for the well-known structures/components of an integrated circuit (see at least, col. 10, lines 19-50). As per claim 8, each of the limitations have been addressed above.

f. As per amended claims 1, 8 and 9, Applicant argues that “although the Robertson et al. patent discloses that the user may make various selections that are transmitted to the portal site, there is no disclosure or suggestion that the system is adapted to allow the user to select any of a single-layer structure or multi-layer structure, as recited in the pending claims” (page 7 of the instant response). This argument is

not persuasive, because the added instant claim language “the user terminal is adapted to allow the user to select a circuit device having any of a single-layer structure or a multi-layer structure” does not serve to distinguish the claims from the teachings of Robertson et al., since as noted above, “allow the user to select” is not a positive recitation of function, and only requires that the recited function not be prevented. In this case, there is nothing in the teachings of Robertson et al. which would “prevent” such a capability.

g. Applicant has provided no further arguments, regarding any of dependent claims 2-7, 10 and 11. Therefore, such claims are deemed to stand or fall with their parent claims.

h. As per newly added claim 12, Robertson et al. teach that it is well-known in the art to design circuit devices by selecting previously designed circuit elements, either as whole circuit blocks or individual circuit components (see, at least, col. 2, line 55 - col. 3, line 10 and col. 3, lines 40-59), which are inherently either single-layer or multi-layer structures.

i. Accordingly, claims 1-12 stand rejected under 35 U.S.C. §102(a), as being clearly anticipated by Robertson et al. (U.S. Patent No. 6,594,799).

10. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 13 and 14 are rejected under 35 U.S.C. §103(a), as being unpatentable over Robertson et al. (U.S. Patent No. 6,594,799), as applied to claim 1 above, further in view of Xing (U.S. Patent No. 6,763,512; newly cited).

Robertson et al. teach the instant invention substantially as claimed, except for the limitation that “the server determines whether the circuit device is of a single-layer structure or a multi-layer structure.” In this regard, Robertson et al. do teach that “one approach for expediting the design process is to provide certain types of design and verification tools - in particular, FPGA synthesis tools - at a remote computer farm that can be accessed over the Internet. Under this approach, the FPGA synthesis tools are run on a central server farm, or computer farm, owned by a single applications service provider. A server farm, or computer farm, is generally a network of processors that are linked together to accomplish higher intensity computing tasks” (col. 4, lines 28-36). In other words, Robertson et al. teach that it was known in the art for a centralized server to perform computing tasks for remote users. However, Robertson et al. does not specify

that one of those tasks would be determining whether a circuit design is single-layer or multi-layer. Such a determination, however, is taught by Xing to be known in the art, as evidenced by the teaching that “referring next to FIG. 2, a method for designing and manufacturing VLSI circuits will now be described in greater detail. The method commences at step 11 with the execution of the VLSI circuit design module 6 by the processor subsystem 2. The method proceeds to step 12 where one or more routing areas are defined and a collection of component tiles are positioned on each routing area using the VLSI circuit design module 6. Generally, a routing area comprises the surface area of a layer of an integrated circuit on which component tiles are positioned. When plural routing areas are defined by the VLSI circuit design module 6, the integrated circuit being designed is a multi-layer integrated circuit and each routing area comprises the surface of a respective layer of the multi-layer integrated circuit” (col. 4, lines 4-18), wherein determining “when plural routing areas are defined” is deemed to be analogous to determining the instantly claimed “size of external form” (of claim 14). Accordingly, in view of the teachings of Robertson et al., it would have been obvious, to one having ordinary skill in the art, at the time the instant invention was made, to centralize to the server this determination of whether a structure is multi-layer or single-layer, since Robertson et al. teach the benefit of “expediting the design process” through such centralization of functionality.

12. Claim 15 is rejected under 35 U.S.C. §103(a), as being unpatentable over Robertson et al. (U.S. Patent No. 6,594,799), as applied to claim 1 above, further in view of Applicant’s admitted prior art, spanning pages 17-18 of the instant specification.

Robertson et al. teach the instant invention substantially as claimed, except for the limitation that “the processor means of the server provides to the user terminal rule data for creating pattern design data based on the condition and the circuit device data received from the user terminal.” In this regard, Applicant admits that “the ISB server 16 uses this data and designs a mask based on a rule for designing a pattern from a circuit design and a design rule for designing a mask from the pattern design. Techniques for designing a pattern from a circuit diagram and for designing a mask from a pattern diagram are known and will not be described” (page 17, line 27 - page 18, line 4). Since Robertson et al. teach that “tools and services accessible to users through the portal site include electronic design automation (EDA) software tools, electronic component information, electronic component databases of parts (or dynamic parts), computing and processing resources, virtual circuit blocks, design expert assistance, and integrated circuit fabrication. Such tools and services may be provided in whole or part by suppliers connected to the portal site. Users accessing the portal site are presented with options in a menu or other convenient format identifying the tools and services available, and are able to more rapidly complete circuit designs by having access to a wide variety of tools and services in a single locale” (see, at least, the abstract), it would have been obvious, to one having ordinary skill in the art, at the time the instant invention was made, to provide such rule accessibility

in the system of Robertson et al., because Robertson et al. teach the benefit of "access to a wide variety of tools and services in a single locale."

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. §103(a), Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR §1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for Examiner to consider the applicability of 35 U.S.C. §103(c) and potential 35 U.S.C. §102(e), (f) or (g) prior art under 35 U.S.C. §103(a).

14. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. Applicant is advised to carefully review the cited art, as evidence of the state of the art, in preparation for responding to this Office action.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP §706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR §1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR §1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria N. Von Buhr whose telephone number is 571-272-3755. The examiner can normally be reached on M-F (9am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Maria N. Von Buhr  
Primary Patent Examiner  
Art Unit 2125